

REMARKS

Claims 1-13 are pending and stand rejected.

Applicants thank the Examiner for taking time to discuss the Application in an interview on April 5, 2007 and for the Examiner's indication that the finality of the previous Office Action would be withdrawn in view of Applicants' amendment to Claim 1 made in this Office Action Response. Claim 1 has been amended, as discussed during the April 5, 2007 interview, to recite a beam profile characterized by a known intensity variance. Claim 1, as amended, also recites that the position of the light beam is determined to within a spacing less than the maximum distance using the known intensity variance of the beam profile.

Applicants respectfully submit that Claim 1 was amended to enhance an understanding of the claim, and not for reasons necessitated by the prior art or record. This amendment provides an express recitation of a feature, i.e., a known intensity variance used for determining the beam position, that was already inherent the original claim. As such, Applicants assert that the amendment to Claim 1 is non-narrowing. Several decisions by the Federal Circuit suggest that an amendment that only makes express a recitation of a feature that was already inherent in the original claim does not narrow the scope of the properly construed claim. *TurboCare v. General Electric Co.*, 264 F.3d 1111 (Fed. Cir. 2001); *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354 (Fed. Cir. 2001) and *Interactive Pictures Corp. v. Infinite Pictures, Inc.*, 274 F.3d 1371 (Fed. Cir. 2001).

Claims 1, 3, 4 and 7-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,959,617 (hereinafter *Bird*). Claims 5 and 6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Bird* in view of U.S. Publication 2004/0071066 (hereinafter *Valley*). Claims 2 and 11-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Bird* in view of U.S. Pat. No. 6,133,906 (hereinafter *Geaghan*).

Three criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or combination of references, must teach or suggest all the claim limitations. MPEP § 2142.

Applicants respectfully disagree with the obviousness rejections since 1) the prior art fails to disclose all the claim limitations, 2) there is no motivation to combine the references as

proposed by the Examiner, and 3) there is no expectation of success if the suggested combinations were made.

Applicants' independent Claims 1 and 11 recite, in some form, a light beam with a cross-sectional profile having a known shape characterized by a known intensity variance across the beam profile. The known intensity variance is used to determine the position of the light beam to within a spacing that is less than the center-to-center spacing of the nearest adjacent light-sensitive devices in the array.

Each of the above rejections relies on *Bird* to teach or suggest a light beam having a known intensity variance. *Bird* does not teach or suggest at least this limitation of Applicants' Claims 1 and 11. *Bird* discloses a light pen input system where the pen emits a beam of light that is non-circular in its cross-sectional shape so that the orientation of the pen can be determined. *Bird* does not disclose or suggest a beam that has a known intensity variance. Further, *Bird* does not teach or suggest that a known intensity variance of the light beam is used to determine the position of the light beam to within a spacing that is less than the center-to-center spacing of the nearest adjacent light-sensitive devices in the array.

The Examiner points to col. 7 lines 58-64 of *Bird* as teaching a light beam having a known intensity variance. However, this section of *Bird* only describes an aperture arranged in the path of a parallel light beam to produce a light beam having a required shape. *Bird* does not teach or suggest at this section or elsewhere that the light beam has both a known shape and a known intensity variance. In addition, there is nothing in *Bird* that teaches or suggests the use of a known intensity variance to determine the position of the light beam to within a spacing that is less than the center-to-center spacing of the nearest adjacent light-sensitive devices in the array.

With reference to the rejection of Claim 1, the Examiner states: "It would have been obvious for Bird et al.'s system to have light sensitive devices having a center-to-center spacing of no more than a maximum distance, the size of the devices is greater than the maximum distance, and the position of the light beam is within a spacing that is less than the maximum distance as claimed since the modification would have involved a mere change in the range/size of the system."

Applicants respectfully assert that the invention, as recited in Claims 1 and 11, uses the known intensity variance of the light beam to provide enhanced resolution, allowing the position

of the light beam to be determined to within a spacing that is less than the center-to-center spacing of the nearest adjacent light-sensitive devices in the array. *Bird* does not describe any process for determining the position of the light beam to within a spacing less than the center-to-center spacing of the light-sensitive devices. Thus, the modification of *Bird* suggested by the Examiner goes beyond merely a change in range or size and contemplates a fundamental modification of the operation of *Bird*'s approach. Applicants assert that merely changing the range or size of *Bird*'s device, as suggested by the Examiner, lacks any reasonable expectation of success to achieve the enhanced resolution.

Applicants respectfully assert that the teachings of *Bird* provide insufficient guidance for one of ordinary skill in the art having these references before him/her to make the combinations and modifications suggested by the Examiner. Applicants respectfully assert that the Examiner's conclusion of obviousness is, instead, based on improper hindsight reasoning using knowledge gleaned only from Applicants' disclosure.

The rejections of Claims 5 and 6 based on the combination of *Bird* and *Valley* fail for at least the reason that these references do not teach or suggest all of the limitations of the claims. The Office Action states that *Bird* does not teach or suggest a beam intensity that is highest at beam center and that trails off to zero intensity (Claim 5) or an annular beam intensity profile (Claim 6) and relies on *Valley* to teach these limitations.

Valley discloses determining emitter beam size in data storage applications. *Valley* does not relate in any way to user input devices and adds nothing that would cure the deficiencies of the *Bird* reference. *Valley* describes an emitter beam size that is unknown, in contrast to Applicants' claims directed to a light beam having a known shape and known intensity variance. Further, *Valley* does not teach or suggest that the position of the light beam is determined to within a spacing that is less than the center-to-center spacing of the nearest adjacent light-sensitive devices in the array using the known intensity variance of the light beam as claimed by Applicants. As such, the combination of *Bird* and *Valley* cannot be used to support a *prima facie* case of obviousness for at least the reason that the proposed combination does not disclose all the recited elements of Applicants' claims.

Claims 2 and 11-13 stand rejected as being unpatentable over the combination of *Bird* and *Geaghan*. Claims 2 and 11-13 are patentable over the asserted combination because neither *Bird* nor *Geaghan* teach the limitations of these claims.

Applicants reassert the arguments presented above in connection with the rejections of Claims 1 and 11 regarding the failure of *Bird* to teach or suggest a light beam having a known intensity variance and the use of the known intensity variance to determine the position of the light beam. *Geaghan* also fails to teach or suggest these limitations.

Geaghan discloses a stylus input system that utilizes the display electrodes as part of the positioning circuit. The input system of *Geaghan* is a capacitive/inductive system and does not involve light-emitting stylus detection systems. *Geaghan* therefore adds nothing that would cure the deficiencies of the *Bird* reference, particularly in relation to a light beam having a known intensity variance and the use of the known intensity variance to determine the position of the light beam. The proposed combination of *Bird* and *Geaghan* does not support a *prima facie* case of obviousness because the proposed combination of references does not disclose all the recited elements in Applicants' claims.

For at least the reasons provided above, Applicants respectfully request that the rejection of Claims 1-13 be withdrawn.

It is to be understood that Applicants do not acquiesce to Examiner's characterization of the asserted art or Applicants' claimed subject matter, nor of the Examiner's application of the asserted art or combinations thereof to Applicants' claimed subject matter. Moreover, Applicants do not acquiesce to any explicit or implicit statements or conclusions by the Examiner concerning what would have been obvious to one of ordinary skill in the art, obvious design choices, alternative equivalent arrangements, common knowledge at the time of Applicants' invention, officially noticed facts, and the like. Applicants respectfully submit that a detailed discussion of each of the Examiner's rejections beyond that provided above is not necessary, in view of the clear absence of teaching and suggestion of various features recited in Applicants' pending claims, the lack of motivation to combine reference teachings, and the lack of any expectation of success should the modifications suggested by the Examiner be made. Applicants reserve the right to address in detail the Examiner's characterizations, conclusions, and rejections in future prosecution.

Applicants respectfully submit that Claims 1-13 are in condition for allowance and request early indication of the same.

Respectfully submitted,

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Date

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